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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,671	09/17/2003	Hiromichi Inoue	JCLA12230	7305
7590	12/12/2005		EXAMINER	
J.C. Patents Suite 250 4 Venture Irvine, CA 92618			WU, SHEAN CHIU	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,671

Applicant(s)

INOUE ET AL.

Examiner

Shean C. Wu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/17/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 3-5, 9-12, 17-18 and 20-24 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and also cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

2. Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the species exemplified in the specification, does not reasonably provide enablement for the species other than those exemplified. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The claims are broader than the enabling disclosure. The claimed invention is not supported by examples commensurate in scope. There are no teachings how to make the species other than those having $A^4=1,4$ -phenylene or 1,4-cyclohexylene. There are no teachings for the compounds containing two or more heterocyclic or fused rings. Without knowledge of the properties of species commensurate in scope with the claims, Applicants invite the skilled artisan to first synthesize and then test the species before a use can be undue. The properties of LC vary greatly with the number and type of rings, bonding, lateral and terminal substituents and polarities. All govern the properties of the LC and mixture thereof, which further determine the utility in one of a multitude of functionally distinct compositions and displays for optical applications. Applicants claim offer little more than an invitation to experiment or even presupposing the species can be readily made.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8 and 13-22 rejected under 35 U.S.C. 102(b) as being anticipated by Leavitt (US 3,340,233).

The reference discloses that the bis-vinylketo aromatic compounds are prepared by acylation of the appropriate aromatic nucleus with a β -chloropropionyl chloride, α -Cl-propionyl chloride and followed by dehydrohalgenation (see col. 1, line 30 to col. 2, line 72). See compound of p, p'-bis-acrylyl diphenylketone in Example VII on col. 4 or RN 7664-58-6 and IT 31-16-28-1P (homopolymer) in CAPLUS 1967: 491254. The reference clearly anticipates the claimed invention.

5. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yabonskii et al. (CAPLUS 1985: 15555).

The reference discloses a monomer of vinyl ketone with biphenyl nitrile derivative (see RN 93745-81-4) and polymer thereof (see abstract). The properties of the reference polymer are used in liquid crystal composition and their optical applications. Therefore, the reference anticipates the claimed invention.

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6. Claims 1-24 rejected under 35 U.S.C. 102(b) as being anticipated by Saupe et al. (US 5,368,770).

The reference discloses a liquid crystalline paste material formed by polymerization of a solution containing a mesogenic solvent and monomeric material in bulk. See the monomeric compound (RN 7664-58-6, also known as BAB synthesized by Kent State University) and its polymer (IT 31-16-28-1P, homopolymer) in CAPLUS 1995: 278549. The paste provides an improved method of preparing thin electrically addressable light modulating films by coating the paste onto a suitable substrate. See the Examples 2-10.

The reference clearly anticipates the claimed invention.

7. Claims 1-12 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikmet et al. (US 5,798,057).

The reference discloses a mixture of polymerizable and liquid-crystalline molecules for switchable cholesteric filters. This mixture is subsequently polymerized with UV light to form an optically active layer of cholesteric order comprising a three-dimensional polymeric network. The mixture preferably comprises, in addition to maximally 5 wt. % of the photo-stabilizing compound (cyano-stilbene of formula 2 in Figure 7), maximally 2 wt. % of monomers having at least two polymerizable groups, maximally 90 wt. % of liquid-crystalline monomers having one polymerizable group, as well as a mixture of chiral and/or achiral liquid-crystalline molecules without a polymerizable group. Also, see Fig. 5 shown on col. 7, lines 35-46. The reference

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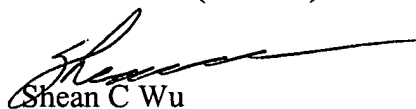
formula (2) reads on the claimed compound when the segments of formula (2) represented by the following: $R^1 = \text{CN}$, core structure = stilbene, $Z^4 = -\text{O}(\text{CH}_2)_6$ and right terminal = $-\text{C}(\text{O})\text{CH}=\text{CH}_2$.

The reference clearly anticipates the claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Shean C Wu
Primary Examiner
Art Unit 1756

SCW